UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 August 2008_.

2a) ☒ This action is **FINAL**.　　　2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _3,4,6,11,12 and 14-23_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _3, 4,6, 11, 12, and 14-23_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☐ All　b) ☐ Some * c) ☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 3, 4, 6, 11, 12, and 14-23 are pending. Claims 3, 11, 12, 14, and 15 have

been amended, claim 13 has been cancelled, and claims 21-23 have been added in this

communication filed 08/17/08 entered as Response After Non-Final Action and Request

for Extension of Time.

2.   The 35 USC 112, First Paragraph rejection still remains because the added

claims do not clearly define what the "econometric engine", the "financial engine" and

"coefficient estimator" are and there is still a lack of structure in independent claim 3 as

set forth here below.

3.   The claim objections for claims 12 and 13 have been overcome by Applicants'

amendment to claim 12 and the cancellation of claim13 and are hereby withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of
making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3, 4, 6, 11, 12, and 14-20 are rejected under 35 U.S.C. 112, first

paragraph, as failing to comply with the enablement requirement. The claim(s) contains

subject matter which was not described in the specification in such a way as to enable

one skilled in the art to which it pertains, or with which it is most nearly connected, to

make and/or use the invention. There is a lack of structure in independent claim 3. The

econometric engine and the financial engine are interpreted as being two software

modules. The Specification, drawings, and claims tells what an econometric engine and

a financial engine does but not what an econometric engine and financial engine is. It is

unclear as to whether they are software modules or some type of software application

or a piece of software. Claims 15-17 have a "coefficient estimator" which is unclear as

to what it is that performs the functions in these claim limitations. The claim limitations

tell what it does but not what it is. Is the "coefficient estimator" a user or a piece of

software or a mathematical algorithm or a device that performs these functions?

"An essential purpose of patent examination is to fashion claims that are precise,

clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be

removed …". *In re Zletz* 13 USPQ2d 1320 (Fed. Cir. 1989).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

(US 6,341,269) Dulaney et al, hereafter Dulaney and Official Notice.

Claim 3.   Dulaney discloses, An apparatus for modeling costs, useful in association

with an optimization engine and at least one merchandise store coupled to the

apparatus via a network, wherein the at least one merchandise store includes at least

one brick-and-mortar store, an online store, and a catalog store, and wherein the

optimization engine is configured to receive input from the apparatus, and wherein the

optimization engine is further configured to generate a preferred set of prices, the

apparatus comprising: an econometric engine for receiving sales data from at least one

merchandise store via a network, cleaning the sales data and generating imputed

variables by imputing at least one missing data point (col. 4, line 5-col. 5, line 5); and

a financial engine for receiving imputed variables from the econometric engine,

receiving cost data from at least one merchandise store via the network, generating a

cost model, and outputting the cost model to the optimization engine (col. 5, line 6-col.

6, line 22), wherein said cost model models costs for individual products in said each of

the at least one merchandise store for a selected demand group in a selected time

period, further wherein said demand group is a group of highly substitutable products

(col. 12, line 1-col. 15, line 51).   Official Notice is taken that cleansing data is old and

well known in a merge/purge document and database environment. The data is known

as "dirty data" that needs to be cleansed.

Claim 4.   Dulaney discloses, The apparatus, as recited in claim 3, wherein the

financial engine estimates inventory space in a store used by a product from the sales

data and delivery data (col. 6, line 24-col. 7, line 4). .

        Claims 6, 11, 12, and 14-23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over (US 6,341,269) Dulaney et al, hereafter Dulaney and Official Notice

in view of Alan L. Montgomery and Peter E. Rossi, hereafter Montgomery and Rossi

and further in view of (US 5,377,095) Maeda et al, hereafter Maeda.

Claim 6.   Dulaney failed to disclose, The apparatus, as recited in claim 3, wherein the imputed variables include at least one of a seasonality variable, a promotional variable and a cross-elasticity variable. Montgomery and Rossi teach, wherein the imputed variables include at least one of a seasonality variable, a promotional variable and a cross-elasticity variable (page 414, col. 2, paragraph 2-page 415, paragraph 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the imputed variables include at least one of a seasonality variable, a promotional variable and a cross-elasticity variable and to modify in Maeda because such a modification would allow Maeda to have the basic pricing decisions and market structure analyses based on the parameters of a demand system for a group of related products and to estimate the own and cross-price elasticities for all major items in one category.

Claim 11. Dulaney discloses, The apparatus, as recited in claim 6, wherein said cost model includes fixed costs and variable costs, further wherein the variable costs are a function of the amount of sales of the product and the fixed costs are not a function of the amount of sales of the product (col. 9, lines 25-32 and lines 52-58).

Claim 12. Dulaney discloses, The apparatus, as recited in claim 11, wherein the cost model models costs for at least one merchandise store. (col. 11, lines 3-38).

Claim 14. Dulaney failed to disclose, The apparatus, as recited in claim 12, wherein the cost model models costs as the sum of a bag cost, a location inventory cost, a checkout labor cost, a location receiving cost, a transportation cost, a distribution center inventory cost, a distribution center labor cost, an invoice processing cost, a location space cost,

and a distribution center space cost. Official Notice is taken that it is old and well known

in the art of inventory, sales, and merchandising to model costs as the sum of bag cost

(number of bags needed and used), location inventory cost, checkout labor cost (cost

for persons checking out customers or employee cost), location receiving cost,

transportation cost, a distribution center inventory cost, a distribution center labor cost,

an invoice processing cost, a location space cost, and a distribution center space cost

to arrive at a cost mode and the cost of running a merchandise sales business.

Claim 15. Dulaney failed to disclose, The apparatus, as recited in claim 12, wherein the

econometric engine is coupled to a coefficient estimator, wherein the coefficient

estimator generates a combined product sales model, a share model and a sales

model. Maeda discloses, The apparatus, as recited in claim 13, wherein the

econometric engine is coupled to a coefficient estimator, wherein the coefficient

estimator generates a combined product sales model, a share model and a sales model

(col. 10, lines 47-68). It would have been obvious to one having ordinary skill in the art

at the time the invention was made to incorporate the teachings of Maeda in Dulaney

because such an incorporation would allow Dulaney to have respective coefficients for

all functions registered in a function registration portion to be calculated on the basis of

retrieved data.

Claim 16. Dulaney discloses, The apparatus, as recited in claim 15, wherein the

coefficient estimator outputs the combined product sales model to the optimization

engine, and wherein the optimization engine generates optimized pricing for the

products from the combined product sales model and cost model (col. 18, lines 28-51).

Claim 17. Dulaney failed to disclose, The apparatus, as recited in claim 15, wherein the

coefficient estimator receives imputed variables from the econometric engine and sales

data from the at least one merchandise store. Maeda discloses, The apparatus, as

recited in claim 15, wherein the coefficient estimator receives imputed variables from

the econometric engine and sales data from the at least one merchandise store (col. 13,

lines 30-68 and col. 14, lines 45-68). It would have been obvious to one having ordinary

skill in the art at the time the invention was made to incorporate the teachings of Maeda

in Dulaney because such an incorporation would allow Dulaney to have respective

coefficients for all functions registered in a function registration portion to be calculated

on the basis of retrieved data.

Claim 18. Dulaney discloses, The apparatus, as recited in claim 17, wherein the

combined product sales model is given by:

where,

k = a product

i = a primary demand group

t = a time period

Di, k,t = a demand for product k in demand group i in time period t

F~,k,, = a fraction of the demand group i equivalent sales comprised by the product k

in the time period t

S,,, = an equivalent sales of the demand group i in the period t (col. 12, line 11- col. 15,

line 58 and col. 16, line 16- col. 18, line 40).

Claim 19. Dulaney discloses, The apparatus, as recited in claim 17, wherein the sales

model is given by:

where,

k = the product i -- the primary demand group j -- a secondary demand group t = the

time period

B = a baseline state of product

$S_{,,}$ = the equivalent sales of the demand group i in the period t

$SB_{,,}$-- an equivalent baseline sales of the demand group i in the period t TS, = total

sales for the merchandise store in the period t TS-, = total sales for a region in the

period t

$P_{,,}$ -- an equivalent price of the demand group i in the time period t

$\sim_{,,}$ = an average equivalent price of the demand group i for the time period t

$P_{,,}$ = an average competitor equivalent price of the demand group i for the time

period t

$Mi_{,,}$ = a promotion level for the demand group i in the time period t

$Xi_{,,}$ = a seasonality index for the demand group i in the time period t

$7\sim$ = a price elasticity factor for the demand group i

$v\sim$ = a promotion factor for the demand group i

$\sim t\sim$ = a seasonality factor for the demand group i

= a seasonality-price interaction factor that measures the interaction of weighted

average price deviations and seasonality for the demand group i

n = a number of time periods away from the time period t

$S\sim,n$ = a time lag factor for the demand group i and the delay of n weeks

~bi,j = a cross elasticity factor for the demand group i and the demand groupj

q~,, = a competitive price factor for the demand group i measured with respect to the

difference between the weighted average price of the demand group within the

merchandise

store and outside competitors

a-~ = a traffic factor for the demand group i

0~ = a day-of-week effect for the demand group i

^2

cr = a mean square error of the sales model divided by 2

K~ = a constant associated with the demand group I (col. 12, line 11- col. 15, line 58

and col. 16, line 16- col. 18, line 40).

Claim 20. Dulaney disclose, The apparatus, as recited in claim 17, wherein the

share model is given by:

where:

k = the product

i = the primary demand group

t = the time period

n = the number of time periods away from the time period t

F,,k,, = the fraction of the demand group i equivalent sales comprised by the product k

in the time period t

P~i,k,t = an equivalent base price of the product k in the demand group i in the time

period t

~i,(k~,t = an average equivalent base price of all products other than the product k in

the demand group i for the time period t

PRB~,k,t = a relative equivalent base price of the product k in the demand group i for

the time period t

~Bz,o,t = an average relative equivalent base price in the demand group i for the time

period t

Mp,~,k,, = a level of promotion type p for the product k in the demand group i in the time

period t

P~,k = a relative base price elasticity factor for the product k in the demand group i

o-p,i,k = a promotion factor p for the product k in the demand group i

Z~,k,n = a time lag factor for the product k in the demand group i and the delay of n

A~,k = a constant associated with the product k in the demand group I (col. 12, line 11-

col. 15, line 58 and col. 16, line 16- col. 18, line 40).

Claim 21. Dulaney failed to disclose, The apparatus, as recited in claim 3, wherein the

econometric engine is a computer readable medium that has computer code thereon for

performing computer implemented operations. Maeda discloses, The apparatus, as

recited in claim 3, wherein the econometric engine is a computer readable medium that

has computer code thereon for performing computer implemented operations (col. 4,

lines 13). Maeda did not expressly disclose an econometric engine. However, Maeda's

computer readable medium can be used for the purpose of this claim limitation.

Claim 22. Dulaney failed to disclose, The apparatus, as recited in claim 3, wherein the

financial engine is a computer readable medium that has computer code thereon for

performing computer implemented operations. Maeda discloses, The apparatus, as

recited in claim 3, wherein the financial engine is a computer readable medium that has

computer code thereon for performing computer implemented operations (col. 4, lines 1-

13).

Claim 23. Dulaney failed to disclose, The apparatus, as recited in claim 3, wherein the

coefficient estimator is a computer readable medium that has computer code thereon

for performing computer implemented operations. Maeda discloses, The apparatus, as

recited in claim 3, wherein the coefficient estimator is a computer readable medium that

has computer code thereon for performing computer implemented operations (col. 4,

lines 1-13).   It would have been obvious to one having ordinary skill in the art at the

time the invention was made to modify Dulaney with the teachings of Maeda because

such a modification would allow Dulaney to have a memory which is generally used as

an external memory such as a floppy disk memory for storing various kinds of data and

a CPU for performing various kinds of processing.

Response to Arguments

Applicant's arguments filed 08/17/08 have been fully considered but they are not

persuasive.

Issue no. 1: Applicants' argue: New claims 21-23 have been added to clarify

'what' the components are: claim 21 states "wherein the econometric engine is a

computer readable medium that has computer code thereon for performing computer

implemented operations"; claims 22 states "wherein the financial engine is a computer

readable medium that has computer code thereon for performing computer

implemented operations"; and claim 23 states "wherein the coefficient estimator is a

computer readable medium that has computer code thereon for performing computer

implemented operations" has been considered but is not persuasive. Response: This

is not found in Applicants' Specification where the econometric engine, the financial

engine, and the coefficient estimator is a computer readable medium that has computer

code thereon for performing computer implemented operations. Applicants' are

respectfully requested to point out where in the Specification that it is suggested or

disclosed that the econometric engine, the financial engine, and the coefficient

estimator is a computer readable medium that has computer code thereon for

performing computer implemented operations.

Issue no. 2: Applicants' argue: the Examiner stated Dulaney discloses, "wherein

said cost model models costs for individual products in said each of the at least one

merchandise store for a selected demand group in a selected time period, further

wherein said demand group is a group of highly substitutable products" has been

considered but is not persuasive. Response: It is interpreted according to the wording

of the claim limitation that Dulaney discloses this claim limitation in col. 12, line 1-col.

15, line 51. A matrix is analogous to the optimization and calculation of the demand

group.

Issue no. 3: Applicants' argue: Applicants' believe that Dulaney fails to mention,

teach, suggest or contemplate generation of optimized product pricing and the

optimization engine further configured to generate a preferred set of prices and the cost modeling of the present invention differs from Dulaney in scope and methodology has been considered but is not persuasive. Response: Applicants' argue Dulaney differs in scope and methodology from the cost modeling of the present invention but does not give a specific explanation how Dulaney differs in scope and methodology from Applicants' invention.

Issue no. 4: Applicants' argue: The variables utilized for the optimization appears to include a time factor and a store factor, however, "demand groups" i.e. groupings of highly substitutable products, do not appear in the disclosure by Dulaney and Dulaney does not provide "imputing" of missing data points, imputation of missing data or even replacement, is not taught, suggested or contemplated by Dulaney has been considered but is not persuasive. Response: The lost sales is interpreted as the missing data points that have been imputed along with the annual inventory cost in col. 4 of Dulaney.

Issue no. 5: Applicants' argue: Montgomery and Rossi do not mention imputation of variables, seasonality or promotional variables has been considered but is not persuasive. Response: Montgomery and Rossi disclose the variation in key parameters across a spectrum of stores which can include promotional variables and seasonality on page 420, line 1-para. 2-description of Fig. 4 to "store subpopulations".

Issue no. 6: Applicants' argue: Applicants' additionally assert that there is insufficient evidence of record of a motivation to combine Dulaney with Maeda or Montgomery and Rossi in a manner meeting the invention as recited in claims 3, 6, 11, 12, and 14-23 has been considered but is not persuasive. Response: "[t]he suggestion

or motivation to combine references does not have to be stated expressly; rather it may

be shown by the reference to the prior art itself, to the nature of the problem solved by

the claimed invention, or to the knowledge of one of ordinary skill in the art." Medical

Instrumentation and Diagnostics Corp. v. Elekta AB, 68 USPQ2d 1263 (Fed. Cir. 2003).

Therefore, the "motivation-suggestion-teaching" test asks not merely what the

references disclose, but whether a person of ordinary skill in the art, possessed with the

understandings and knowledge reflected in the prior art, and motivated by the general

problem facing the inventor, would have been led to make the combination recited in the

claims." In re Kahn 78 USPQ2d 1329 (CAFC 2006).

Issue no. 7: Applicants' argue: Maeda fails to disclose the combined product

sales model and share model has been considered but is not persuasive. Response: It

is interpreted that Maeda discloses a calculation on the basis of the retrieved data which

is interpreted to include combined product sales model and share model data in col. 10,

lines 47-59.

Issue no. 8: Applicants' argue: Applicants' assert that the objective, function-type

and variables differ from the cited art and the "combined product sales model" disclosed

by claim 18 has been considered but is not persuasive. Response: Applicants'

specification only has the formula but does not recite "k = a product, i=a primary

demand group, t= a time period, D …=a demand for product k in demand group I in time

period t, F … = a fraction of the demand group i equivalent sales comprised by the

product k in the time period t, S …= an equivalent sales of the demand group i in the

period t. Claims 19 and 20 have the same issue as the symbols in the formula not

being described in the Specification which means the specification has a lack of support

and an incomplete disclosure of Applicants' invention. Therefore, the prior rejections of

claims 3, 4, 6, 11, 12, and 14-20 are sustained.

Support for the Official Notice taken in Claim 14 is found in reference (US

4,887,207) Natarajan in col. 6, line 63-col. 8, line 2.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Baseman et al (US 7,363,259) disclosed an inventory model and inventory cost.

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 571-272-6741. The examiner can normally be reached on Monday, Tuesday, and Thursday, 5:30AM-3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dixon Thomas can be reached on 571-272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ella Colbert/
Primary Examiner, Art Unit 3696

November 23, 2008